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Nuclear disarmament verification

Report of the Secretary-General

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I. Introduction

1. In paragraph 6 of its resolution 71/67 on nuclear disarmament verification, the General Assembly requested the Secretary-General to seek the views of Member States on the development and strengthening of practical and effective nuclear disarmament verification measures and on the importance of such measures in achieving and maintaining a world without nuclear weapons, and to report back to the General Assembly at its seventy-second session.

2. Pursuant to that resolution, on 20 February 2017, the Office for Disarmament Affairs sent a note verbale to all Member States requesting their views, followed by second a note verbale dated 12 June 2017. The replies received as at 31 July are contained in section II and are also available on the website of the Office for Disarmament Affairs.[1] The reply of the European Union is reproduced in section III, in accordance with the modalities set out in resolution 65/276, and is also available on the above-mentioned website. Additional replies received after 31 July 2017 will be posted on the website of the Office for Disarmament Affairs in the language of submission only.

II. Replies received from Governments

Argentina

[Original: Spanish]
[14 July 2017]

The Argentine Republic welcomes and supports the efforts being made at the multilateral level to ensure that nuclear-weapon States commit to moving forward on the transparency, effectiveness and irreversibility of the nuclear disarmament measures that they adopt on a unilateral, bilateral and, where applicable, multilateral basis.

In this regard, addressing verification from a constructive perspective allows for a focus on the technical aspects, thereby laying the groundwork to facilitate subsequent political understandings. The establishment of a group of governmental experts to consider the role of verification in the framework of the United Nations is conducive to the priority treatment of these issues within the United Nations machinery.

Argentina believes that there must be progress in measures to eliminate nuclear weapons that contain effective verification mechanisms.

In this connection, in May 2016 Argentina joined the International Partnership for Nuclear Disarmament Verification, on the understanding that it constitutes a concrete body that will enable progress in nuclear disarmament. The progress made in the framework of that informal partnership can contribute to future work undertaken within the United Nations. We therefore hope that the next group of governmental experts will take into account the documents and conclusions emanating from the Partnership.

Argentina considers that initiatives in the field of nuclear verification are consistent with and complement the efforts of the international community to advance the implementation of the obligations under article VI of the Treaty on the Non-Proliferation of Nuclear Weapons. In that regard, Argentina believes that nuclear disarmament should be complete and should be carried out in a verifiable, irreversible and transparent manner.

[1] www.un.org/disarmament/.

Australia

[Original: English]
[23 May 2017]

Australia welcomes and strongly supports General Assembly resolution 71/67 which requests, among other things, the establishment of a group of governmental experts to consider the role of verification in advancing nuclear disarmament. Australia was actively involved in the drafting of the resolution and was a co-sponsor. It has a strong interest in participating in the group of governmental experts on verification and looks forward to working with Norway and the broader global community to advance this initiative in 2018 and 2019.

Verification is an essential element in the process of achieving arms limitation and disarmament agreements, as underlined in the Disarmament Commission's Principles of Verification (1988). Since then, there have been some excellent collaborations that have advanced the verification agenda in concrete and practical ways, such as the initiative between Norway and the United Kingdom of Great Britain and Northern Ireland, commencing in 2007, in which for the first time a nuclear-weapon State and a non-nuclear-weapon State worked together to explore the challenges of nuclear weapon arms control and disarmament verification. The United States of America and the United Kingdom have continued to pursue cooperation on technical aspects of nuclear disarmament verification over a number of years.

At the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, in addition to committing to the principles of verifiability, transparency and irreversibility, all States agreed on the importance of supporting (international) cooperation aimed at increasing confidence, improving transparency and developing efficient verification capabilities related to nuclear disarmament (action 19).

Australia shares the view that there is no viable alternative to practical and verifiable steps as a path to nuclear disarmament. Australia believes that identifying and developing workable and effective verification and monitoring measures will foster enhanced confidence, underpin disarmament efforts and contribute to achieving and maintaining a world free of nuclear weapons. The group of governmental experts on verification offers a major opportunity to make tangible progress in advancing verifiable nuclear disarmament.

In April 2016, Australia submitted a working paper to the Open-ended Working Group on the fourth special session of the General Assembly devoted to Disarmament, which included the topic of verification and compliance as one of three agenda items in a niche model approach. Australia considers this an important area that Member States could advance in the current international climate. The working paper will be considered at the final Open-ended Working Group meeting in June 2017 and, if agreed, the outcomes of the group of governmental experts could feed into future special sessions on disarmament.

Australia welcomes the valuable contribution of the International Partnership for Nuclear Disarmament Verification. To be adequate and effective, verification must cover all relevant weapons, facilities, locations, installations and activities. Initiatives such as the International Partnership provide a forum for studying the many practical issues surrounding future verification mechanisms, and make a positive contribution to advancing nuclear disarmament, including by:

- Developing technical solutions to address monitoring and verification challenges

- Building verification knowledge and capacity in non-nuclear weapon states as well as nuclear weapon states
- Injecting the concrete experiences of multiple states into discussions over global zero by highlighting the technical work needed to facilitate verified disarmament

Australia is proud to be an active participant in the International Partnership and, with Poland, co-chairs working group two (on-site inspections). Australia and Japan have led consideration of transparency in working group one (monitoring and verification objectives) and Australia provides expertise to working group three (technical challenges and solutions). Australia would like to broaden the discussion so that more States have an opportunity to engage on this issue. Australia stands ready to contribute to the group of governmental experts on verification, if invited, drawing on its experience in the International Partnership as well as its long standing engagement on the peaceful uses of nuclear energy, including its extensive outreach programme within our Indo-Pacific region.

Brazil

[Original: English]
[31 July 2017]

Brazil supports the establishment of nuclear disarmament verification mechanisms under strict and effective international control. Disarmament verification initiatives will help achieve real progress towards the ultimate goal of freeing the world from nuclear weapons.

Bearing this objective in mind, Brazil has been participating in the International Partnership for Nuclear Disarmament Verification. Brazil also welcomed the establishment of a group of governmental experts to consider the role of verification in advancing nuclear disarmament pursuant to General Assembly resolution 71/67.

Such initiatives are confidence-building measures of great importance to create synergies between nuclear-weapon states, and those under the nuclear umbrella, and non-nuclear-weapon States for the full implementation of article VI of the Treaty on the Non-Proliferation of Nuclear Weapons.

One example of a successful confidence-building measure that could be replicated is the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials which is based on the principle of "neighbours watching neighbours".

Brazil understands that the International Atomic Energy Agency should have a central role in the implementation of any kind of multilateral disarmament verification mechanism, not only because of its unparalleled expertise safeguarding nuclear programmes, but also owing to its legal authority in this domain, according to article III.B.1 of its Statute.

Brazil is of the view that the multilateralization of disarmament verification is required for the necessary transparency and irreversibility of the process. A multilateral and impartial organization should be present in all phases of disarmament operations, as it grants legitimacy and efficacy to the elimination of nuclear weapons.

Previous technical arrangements should not be an obstacle to achieve political goals on nuclear disarmament negotiations. Although recognizing the value of technical initiatives, Brazil is convinced that decisive political commitments are necessary to overcome the complex challenges leading to nuclear disarmament.

Brunei Darussalam

[Original: English]
[29 June 2017]

Brunei Darussalam supports disarmament efforts and the non-proliferation of all types of weapons of mass destruction, including nuclear weapons, at both the regional and global levels. Brunei Darussalam is a party to most of the major regional and global instruments pertaining to nuclear disarmament and non-proliferation, including the Comprehensive Nuclear-Test-Ban-Treaty.

Having signed and ratified the Comprehensive Nuclear-Test-Ban-Treaty, Brunei Darussalam supports all efforts towards an effective and all-encompassing verification regime. Brunei Darussalam is committed to comply with any on-site inspections, and continues to share information and data to ensure transparency and confidence.

Although Brunei Darussalam does not have specific nuclear disarmament verification measures that can monitor signs of nuclear explosions, its effort continues in the form of articulating its support and commitment on the international stage.

Burundi

[Original: French]
[19 May 2017]

Burundi has taken the following steps:

- Signature of the Nuclear Disarmament Treaty on 10 April 1972;
- Ratification of the Convention on that subject on 25 August 2006;
- Signature of the Comprehensive Nuclear-Test-Ban Treaty on 24 September 1996 and ratification on 24 September 2008;
- Signature, on 27 September 2007, of the Protocol Additional to the Agreement between the Republic of Burundi and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons;
- Accession as a Member state of the International Atomic Energy Agency (IAEA) in June 2009, and cooperation with the Agency as a non-nuclear-weapon State.

The Republic of Burundi proposes that nuclear disarmament verification measures should follow the progressive approach and that diplomatic negotiations with nuclear-weapon States should be phased, with a view to the efficient implementation of the related Treaty in a balanced environment.

Canada

[Original: English]
[31 July 2017]

The present submission provides Canada's views on the development and strengthening of practical and effective nuclear disarmament verification measures and their importance in achieving and maintaining a world without nuclear weapons, as requested by the Secretary-General regarding General Assembly resolution 71/67, by which the Assembly decided to establish a group of

governmental experts to consider the role of verification in advancing nuclear disarmament.

Verification and international security

Verified compliance with arms control and disarmament regimes contributes to building trust among participating States parties which, in turn, provides considerable security benefits to the international community. While not an end in itself, effective verification is essential for creating and maintaining the necessary confidence for cooperation in these regimes. It can enhance credibility, help to build transparency and facilitate compliance. For States in regions of high tension and low trust, establishing and implementing a credible verification may be more difficult, but is even more critical for facilitating cooperation on disarmament issues. Verification is a key part of a nuclear disarmament process that promotes international stability, peace and security. Furthermore, as stated in action 2 of the final document from the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, verifiability, along with irreversibility and transparency, is central for States Parties to the Treaty to meet their disarmament obligations as specified in article VI.

The purpose of verification is to detect non-compliance, deter violators and build confidence among parties in a disarmament agreement. Compliance assessments are integral to the verification process and critical to achieving its objectives. These assessments depend on factors such as the nature of the obligations, the monitoring regime established in the agreement (including the degree of access), the compliance history of the parties and technical and analytical capacities. While international bodies with expertise relevant to disarmament verification may be engaged to undertake technical monitoring and verification activities, and potentially to enhance confidence in the process, the ultimate responsibility for making a compliance assessment normally rests with States parties.

States have the opportunity to demonstrate their compliance by undertaking transparency measures and providing additional information beyond their minimum legal obligations. Conversely, States need to consider that their non-participation or reluctance to be subjected to verification activities may undermine trust among States parties. In the case of inadvertent non-compliance (for example, because of a misinterpretation of obligations), encouragement and cooperation, including capacity-building, can help to bring States back into compliance. In the case of deliberate non-compliance, which directly challenges the security of other parties, strong enforcement measures will likely be required.

Canadian perspectives on verification

Since the mid-1980s, Canada has taken an active role in advancing the global recognition of the importance of verification in the context of international security. Over the years, this has included sponsoring regular resolutions at the General Assembly on verification in all its aspects, including the role of the United Nations in the field of verification, funding research and outreach efforts, contributing to the development of the 16 principles of verification released by the Disarmament Commission in 1988, chairing the 1995 Group of Governmental Experts mandated to examine verification in all its aspects, and chairing the 2006 Panel of Governmental Experts mandated to review further developments with respect to verification in all its aspects. In addition, as Chair of the 2014-2015 Group of Governmental Experts mandated to make recommendations on possible aspects that could contribute to, but not negotiate, a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, Canada also led an

in-depth discussion on the important verification aspects of such a future treaty, as contained in the Group's report (A/70/81). Current Canadian efforts on verification include participation in all three working groups of the International Partnership for Nuclear Disarmament Verification and funding support for the Nuclear Threat Initiative in its role as the secretariat for the International Partnership.

Considerations regarding nuclear disarmament verification

Robust verification regimes can contribute to resolving complex regional challenges, such as facilitating efforts to establish new nuclear weapon free zones. In conjunction with transparency measures, such as those found in The Hague Code of Conduct or the Andean Charter for Peace and Security, and cooperative threat reduction activities, such as the Global Partnership against the Spread of Weapons and Materials of Mass Destruction, effective verification can strengthen international confidence and security. When all States are engaged and confident in the compliance of their neighbour, the implementation of disarmament obligations is likely to be more effective.

Effective verification is a key part of the disarmament process, in that without verification, States may lack confidence that disarmament commitments are being met. Nuclear disarmament verification, as a subset of broader verification efforts, is characterized by particular challenges. Most significantly, only a select few countries — notably the Non-Proliferation Treaty nuclear-weapon States of the United States of America and the Russian Federation — have direct experience with nuclear disarmament verification involving another nuclear-weapon State. In addition, there is no experience with the implementation of a disarmament verification regime targeted specifically at the dismantlement of nuclear explosive devices and the disposition of weapons-grade fissile materials, rather than at their delivery systems.

Among non-nuclear-weapon States, there is generally only a cursory understanding of the characteristics of nuclear explosive devices and of potential disarmament verification processes, due largely to the Non-Proliferation Treaty obligations of non-nuclear-weapon States which preclude them from gaining access to proliferation-sensitive information through any such process. Equally important are the Non-Proliferation Treaty obligations of nuclear-weapon States which prevent them from sharing any similar information with non-nuclear-weapon States. As a result, the current global expert base for nuclear disarmament verification is limited. Indeed, any nuclear disarmament effort must be highly sensitive to proliferation risks, and managed to be minimally intrusive (to prevent the release, inadvertent or otherwise, of information relating to the design and composition of a nuclear explosive device), yet provide sufficient assurance about compliance with the objectives of the disarmament regime in place.

The training of a professionally qualified cadre of specialists in nuclear disarmament verification, with geographically diverse representation from both non-nuclear-weapon States and nuclear-weapon States, could greatly contribute to global confidence in disarmament regimes. Otherwise, without broadening the availability of specialized skills for nuclear disarmament verification, these activities would largely be undertaken by nationals from nuclear-weapon States. Such training could build on the capabilities available in existing multilateral organizations and institutions, or draw from the experience of specific countries which have undertaken activities relevant to nuclear disarmament verification. For example, South Africa has experience terminating its nuclear weapons programme and dismantling its nuclear weapons; Kazakhstan learned from destroying its nuclear testing infrastructure; and the Brazilian-Argentine Agency for Accounting

and Control of Nuclear Materials has expertise in nuclear material safeguards activities.

Also, an increasing number of countries are currently investing in the development of national capabilities for nuclear forensic analysis. Primarily applied to combatting international trafficking in nuclear material and to securing domestic sources of nuclear material, these skills could potentially contribute to expanding the global capacity for nuclear disarmament verification. In addition, Canada, like other countries with a highly developed nuclear industry, could draw upon its expertise in the areas of nuclear physics and nuclear safeguards to contribute to disarmament verification. Through the Canadian Nuclear Laboratories, Canada has developed expertise in designing instruments for the detection of nuclear materials, including design, prototype testing, production and simulation of their response. The Laboratories also maintain a number of facilities with special nuclear materials which could be used to provide field training in security and verification activities. The verification of baseline declarations may require establishing a balance between access to secure locations and the protection of sensitive information of national security value to the host party. The use of national technical means to verify declarations and continued compliance could also be considered. If so, it would be important to address how States parties or the body assigned to oversee the implementation of the disarmament regime could best incorporate this information into their assessments.

Confirming compliance with nuclear disarmament verification regimes may also require monitoring the various stages in the production of nuclear weapons. This could involve continuous oversight of the various stages of the nuclear fuel cycle (e.g., monitoring the number of centrifuges and the level of enrichment) and of the facilities involved in re-processing nuclear fuel or those engaging in research and development.

A regime for nuclear disarmament may also need to consider indirect mechanisms to monitor for non-compliant behaviour. This could include a robust international system for alerting, monitoring, sharing information on dual-use technologies and materials and export controls to reduce the risk of clandestine weapons research or production.

Civil society, including industry, the financial sector, the media, academia and non-governmental organizations, could also play an important role in nuclear disarmament verification, including by raising awareness of non-proliferation, arms control, and disarmament obligations and commitments. Using open source methods and technologies, it can potentially contribute to an overarching alerting and monitoring system to sound alarms about non-compliant behaviour. It can also provide resources and expertise to States that may need assistance in national implementation.

Finally, the dismantling of nuclear weapons, which contain extremely hazardous material, requires careful consideration of safety issues that may impact human health and the environment.

Considerations regarding the work of the group of governmental experts

Review of the conclusions of the group of governmental experts on verification in all its aspects, including the role of the United Nations in the field of verification and the report of the group of governmental experts to make recommendations on possible aspects that could contribute to but not negotiate a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices. Consistent with the approach of earlier assessments of developments in the field of verification, Canada

suggests that the group of governmental experts review previous United Nations work in the area of verification. This effort should seek to draw upon recommendations that would have specific applicability to nuclear disarmament verification, including measures and mechanisms to ensure and enforce compliance.

Lessons from recent verification experiences. Although few multilateral exercises have explored the range of policy and technical issues requiring consideration for nuclear disarmament verification, those that have provide a deep pool of practical lessons learned. These include: the initiative of Norway and the United Kingdom of Great Britain and Northern Ireland which demonstrated how a nuclear-weapon State and a non-nuclear-weapon State could work together on disarmament verification matters; the Trilateral Initiative between the United States of America, the Russian Federation and the International Atomic Energy Agency (IAEA), which determined that IAEA was able to verify weapon-grade fissile material from defence programmes, without the release of any proliferation sensitive information; and the current International Partnership for Nuclear Disarmament Verification, which brings together more than two dozen nuclear-weapon and non-nuclear-weapon States to explore in-depth the technical and policy requirements for the dismantlement of a nuclear explosive device. A very recent initiative called the Quad Nuclear Verification Partnership, consisting of the United Kingdom, the United States, Norway and Sweden, has also commenced a multi-year effort to build capacity in nuclear disarmament verification, test new technologies and establish a verification protocol. In addition, the Verification Research, Training, and Information Centre delivers workshops and supports research on nuclear disarmament verification, which provides an additional resource for broadening the understanding of current verification challenges. Canada suggests that the group of governmental experts include a review of the findings from these initiatives.

Synergies with verification of a fissile material cut-off treaty. The high-level fissile material cut-off treaty expert preparatory group, chaired by Canada, will be undertaking work that may develop ideas on the verification requirements for an eventual fissile material cut-off treaty. Canada recommends that both the group of governmental experts and the preparatory group examine whether it is opportune to share information with each other on respective work pertaining to nuclear disarmament verification more broadly, and within the context of the requirements of a fissile material cut-off treaty.

Modalities for implementing multilateral nuclear disarmament verification. As expertise to undertake nuclear disarmament verification is lacking among most States, there may be value in drawing upon the verification resources and skills of an independent multilateral organization, such as IAEA. Statements to the IAEA General Conference suggest support for IAEA to assume a role in verifying nuclear disarmament. Canada recognizes that IAEA possesses considerable expertise with respect to safeguards tools and techniques, and that these skills may be relevant for an eventual nuclear disarmament verification inspectorate. Canada recommends that the group of governmental experts consider carefully the appropriate role for IAEA to assume, given its Statute and its existing commitments. The group of governmental experts may also consider assessing alternative options for the development of an independent disarmament verification inspectorate that could support the implementation of a nuclear disarmament regime.

Conclusion

Canada considers progress on nuclear disarmament verification as an essential enabler for broader disarmament efforts. This is true not only from a technical perspective, to ensure compliance, but is also important as a measure of transparency and for confidence-building among States. The security interests of all States can only be addressed if there is assurance that no one State is able to take undue advantage of the disarmament commitments of others. Canada therefore strongly supports the upcoming work of the group of governmental experts on nuclear disarmament verification and looks forward to its recommendations.

China

[Original: Chinese]
[29 July 2017]

Pursuant to General Assembly resolution 71/67, entitled "Nuclear disarmament verification", the Government of China presents herewith the following views on the issue of nuclear disarmament verification:

(1) Effective nuclear disarmament verification measures are important to ensuring successful nuclear disarmament and serve as important safeguards in the comprehensive prohibition and total elimination of nuclear weapons;

(2) Engaging in communication on the topic of nuclear disarmament verification will facilitate the development of mutual trust among nuclear-weapon States, and also between nuclear-weapon and non-nuclear-weapon States. It will also facilitate the provision of technical support for the development of the international nuclear disarmament process;

(3) There are many difficulties and challenges, both known and unknown, in the field of nuclear disarmament verification. Consequently, comprehensive and total nuclear disarmament will be a long-term process. It cannot be achieved overnight;

(4) Existing verification measures play an important role in ensuring the compliance of concerned parties with legal instruments relating to nuclear disarmament and non-proliferation. Substantial reductions in nuclear arsenals by the countries with the largest nuclear arsenals, in a verifiable and irreversible manner, are of great significance to the future development of the nuclear disarmament process. The extent to which their technology and experience can be applied elsewhere will serve as an important point of reference. In the future, international legal instruments relating to nuclear disarmament should, to the greatest extent possible, include corresponding verification mechanisms;

(5) The international community, in promoting research relating to nuclear disarmament verification, should fully consider the following issues:

(a) Given that nuclear disarmament verification involves sensitive information relating to nuclear weapons, relevant research should not undermine the security interests of nuclear-weapon States. Strict non-proliferation measures should be adopted, with particular attention paid to the protection of sensitive technology and information. Full consideration should be given to the relationship between the effectiveness of verification measures and their intrusiveness, and efforts should be made to fully guard against the risk of spreading knowledge relating to nuclear weapons;

(b) Nuclear disarmament verification involves the means of delivery, nuclear warheads, nuclear materials and other aspects of nuclear weapons. Given its

high degree of complexity, relevant research should focus on common technical issues. Efforts to strengthen research into disarmament verification procedures and steps should address the simplest issues first and move forward in a sequential manner;

(c) There are differences in the verification requirements of the various nuclear disarmament treaties. Substantive progress cannot be made by formulating verification measures that are not tied to specific treaties. We should not seek to establish a unified verification template that is universally applicable. The verification measures of the relevant nuclear disarmament treaties must be drawn up through negotiations among the sovereign States concerned. Current research into nuclear disarmament verification should proceed from an academic perspective, provide a wide range of options with respect to future nuclear disarmament, and focus on the feasibility and effectiveness of various verification measures;

(6) China is actively engaged in research into nuclear verification technologies and has made significant progress with respect to verification measures and technical methods, including the measurement of nuclear material properties, information barriers and chains of custody. China has developed technical methods for verification in States that are barred from conducting nuclear tests. It also played an important role in response to the radioactive leakage accident at the nuclear power plant in Fukushima, Japan, and in monitoring the nuclear tests conducted by the Democratic People's Republic of Korea. Meanwhile, Chinese experts in nuclear technologies have engaged in numerous academic exchanges with their counterparts from the United States, the Russian Federation, the United Kingdom of Great Britain and Northern Ireland and other countries. They have also discussed relevant research findings at conferences of the permanent five members of the Security Council. China will continue to focus on research into verification technologies and participate in related international exchanges.

China hopes that the Office for Disarmament Affairs will include the above text, in its entirety, in the relevant report of the Secretary-General.

Colombia

[Original: Spanish]
[28 April 2017]

Colombia wishes to stress that all States parties to the Treaty on the Non-Proliferation of Nuclear Weapons have a commitment to apply the principles of irreversibility, verifiability and transparency to effectively comply with the Treaty, especially as regards the effective implementation of article VI on nuclear disarmament.

Furthermore, for Colombia, the principle of transparency is essential in the field of nuclear disarmament verification and non-proliferation, as it contributes to confidence-building at the regional and global levels.

Finally, Colombia highlights the importance of the experience and best practices of IAEA in the implementation of any verification measures, taking into account IAEA experience in the application of the safeguards system.

Cuba

[Original: Spanish]
[5 July 2017]

The prohibition and total elimination of nuclear weapons is the only absolute guarantee against their use or threat of use. In order to be effective, the nuclear disarmament process must meet the criteria of transparency and irreversibility and be subject to strict international verification.

The need for strict and effective controls or systems in the field of international nuclear disarmament verification was endorsed both by the provisions of the Treaty on the Non-Proliferation of Nuclear Weapons and by the advisory opinion of the International Court of Justice of 1996 on the legality of the threat or use of nuclear weapons.

The principle of increased and undiminished security for all, leading to nuclear disarmament, contained in the sixth preambular paragraph of General Assembly resolution 71/67, can in no way be used as a pretext to justify the existence of nuclear weapons and to postpone indefinitely their prohibition and elimination.

Non-nuclear-weapon States have demonstrated their commitment to a nuclear-weapon-free world, limiting the use of nuclear energy exclusively to activities for peaceful purposes. Nevertheless, or precisely for that reason, future nuclear disarmament verification must involve all States, and not only nuclear-weapon States.

Verification activities must respect the sovereignty and national interests of States and, at the same time, be conducted in an impartial, objective and transparent manner, without double standards or manipulation for geopolitical purposes.

IAEA could play an important role in nuclear disarmament verification. The Agency has the capacity and expertise to conduct verification activities, in accordance with the purposes and principles of the Charter of the United Nations, and thus contribute to the advancement of nuclear disarmament.

Despite the fact that the current IAEA structure is designed to verify the obligations of non-nuclear-weapon States in the context of the Treaty on the Non-Proliferation of Nuclear Weapons, IAEA also has a role in nuclear disarmament, including the application of safeguards on nuclear materials derived from the dismantling of nuclear weapons.

The establishment or creation of new IAEA capacities to address future challenges in disarmament verification would also be linked to capacity-building within IAEA member States and would essentially complement the Agency's policy in that regard.

France

[Original: French]
[26 July 2017]

An effective and efficient verification regime is essential to ensure the credibility of the instruments on disarmament, including nuclear disarmament. The regime should enable all parties to a disarmament instrument, be it bilateral, plurilateral or multilateral, to have the necessary confidence that the commitments of the various parties will be implemented.

As stated in the Final Document of the Tenth Special Session of the General Assembly, disarmament instruments should contain "adequate measures of

verification satisfactory to all parties concerned." Verification measures should take into account the concerns relating to security, safety and non-proliferation of States hosting nuclear weapons.

In that context:

(a) France supported General Assembly resolution 71/67, by which the General Assembly established a group of governmental experts, because France is of the view that dialogue on nuclear disarmament verification between nuclear-weapon States and non-nuclear-weapon States helps to build confidence, which is essential for arms control and disarmament and is a factor in strategic stability;

(b) France also participates in the International Partnership for Nuclear Disarmament Verification, which brings together more than 20 States to consider the technical challenges of nuclear disarmament verification. The focus of the first phase of the Partnership was on the verification of the dismantlement of a nuclear explosive device, which is one of the most complex aspects of nuclear disarmament verification. The Partnership, which includes nuclear-weapon States and non-nuclear-weapon States, aims to increase understanding of the technical challenges and the competencies necessary for nuclear disarmament verification.

The development of technical and procedural competencies is essential for effective verification and the taking into account of the security, safety and non-proliferation considerations of nuclear-weapon States. Nuclear disarmament verification in a multilateral context differs from the nuclear arms control verification that may be undertaken by two nuclear-weapon States at the bilateral level. Existing technologies and procedures are not adequate to address all of the nuclear disarmament verification security, safety and non-proliferation issues at play in a multilateral arrangement involving non-nuclear-weapon States and one or more nuclear-weapon States. Significant work should be undertaken in this area, including the development of technological information barriers and technology authentication procedures;

(c) A disarmament verification regime should not be put in place *in abstracto* but should be linked to a specific disarmament treaty and adapted to the specific circumstances of each nuclear-weapon State;

(d) France actively participated in the discussions on the verification of a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices (fissile material cut-off treaty) by the Group of Governmental Experts that met in 2014 and 2015. In that connection, France will continue, among other things, to contribute to the discussions of the international community on the verification of such a treaty and the definition of the fissile material concerned during the 2017 and 2018 sessions of the high-level fissile material cut-off treaty expert preparatory group;

(e) All nuclear disarmament verification initiatives should take into account the non-proliferation obligations established in articles I and II of the Treaty on the Non-Proliferation of Nuclear Weapons. They should also respect the principle of undiminished security for all, which has been recognized in the context of the Non-Proliferation Treaty review process;

(f) However, a world without nuclear weapons cannot be achieved through the development of verification capabilities alone. The evolution of the security context underlies all nuclear disarmament efforts, in accordance with the progressive approach called for in article VI of the Treaty on the Non-Proliferation of Nuclear Weapons;

The evolution of the strategic context enabled France to reduce its nuclear arsenal by half in just under 10 years. The size of the French nuclear forces is determined in accordance with the principle of strict sufficiency. In keeping with that principle, the French arsenal is maintained at the lowest possible level compatible with the strategic context and the foreseeable development of the threat;

(g) In addition to bilateral, plurilateral and multilateral nuclear disarmament verification instruments, political commitments accompanied by transparency measures play an important role in nuclear disarmament. France has made considerable efforts in that regard.

It ceased all production of plutonium for its nuclear weapons in 1992 and announced a moratorium on the production of highly enriched uranium in 1996. Also in 1996, it took the decision to dismantle its facilities for the production of fissile materials for nuclear weapons, located at the Pierrelatte and Marcoule sites. This dismantling, which is still under way, is irreversible. It comes at a considerable financial cost and presents a significant challenge in terms of implementation and expertise. France is the only nuclear-weapon State to have opened the doors of its former facilities for the production of fissile materials for nuclear weapons to the international community. It granted access to more than 40 States members of the Conference on Disarmament in 2008 and to over 20 non-governmental experts and some 30 international journalists in 2009. In 2018 France will once again allow access to its facilities, this time to the high-level fissile material cut-off treaty expert preparatory group, in which France participates.

France is the only State that has had a surface-to-surface nuclear force and subsequently completely dismantled it on the basis of a unilateral decision. In 2015, representatives of approximately 50 States members of the Conference on Disarmament visited the Plateau d'Albion, where the silos that used to house the surface-to-surface component have been completely dismantled. The representatives also visited the empty weapons storage depots at the Luxeuil air base, which gave them an opportunity to observe the concrete and sincere nature of the decision taken by France in 2008 to reduce its airborne nuclear component by a third and to convert the Luxeuil base, which was originally dedicated to deterrence, into an air policing mission.

France also decided to irreversibly close its Pacific Experimentation Centre and, in an unprecedented step for a nuclear-weapon State, granted an international expert mission access so that it could assess the effects of French nuclear testing on the environment. The mission resulted in the publication of a report by the International Atomic Energy Agency.

Germany

[Original: English]
[13 May 2017]

Nuclear disarmament verification is an essential element of a step-by-step approach towards a world without nuclear weapons. The principle of irreversibility, as it was reaffirmed in the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, necessitates that nuclear disarmament be accompanied by a robust verification regime in order to ensure that commitments made under a disarmament treaty are effectively met.

Germany advocates for a multilateral approach to nuclear disarmament verification. Capacities should be built among States with and without nuclear weapons to develop solutions for monitoring and verification challenges across the whole nuclear weapons lifecycle: from material production and control to warhead

storage and dismantlement and disposition. Germany believes that future arms control treaties and agreements will need to provide for new and intrusive provisions, effective on-site inspections and new items subject to inspection, all of this notwithstanding the provisions of articles I and II of the Treaty on the Non-Proliferation of Nuclear Weapons. Germany has the technical expertise and experience to strengthen effective nuclear disarmament verification. As a non-nuclear-weapons State, Germany can provide particular input to a group of governmental experts on nuclear disarmament verification by (a) furthering academic education in the field of nuclear disarmament verification, addressing both political and technical issues, for postgraduate students; (b) increasing technical expertise through training of experts and scientists; (c) developing innovative systems concepts for verification regimes in multilateral nuclear disarmament approaches; (d) conducting research and development projects for improving nuclear verification techniques and procedures, such as surveillance technologies, sealing systems, environmental sampling, nuclear measurement equipment, geospatial information analysis, statistical methodologies, and sample planning; (e) co-organizing and participating in exercises aimed at testing and, where necessary, improving on-site inspection procedures; (f) applying technical knowledge, competences and experiences in nuclear verification gained through the International Atomic Energy Agency Safeguards Support Programme in Germany, since 1978, including the development of nuclear verification equipment, field tests and training of inspectors; and (g) growing national and international networking of technical experts.

For Germany, the International Partnership for Nuclear Disarmament Verification plays a focal role for developing practical verification measures. The objective of the International Partnership is to promote increased international understanding of, and confidence in, the monitoring and verification of future nuclear arms control and disarmament agreements by strengthening cooperative work between nuclear-weapon States and non-nuclear-weapon States. Germany supports the International Partnership with three external technical experts and hosted its working Group meetings in March 2017.

Hungary

[Original: English]
[12 May 2017]

General observations on multilateral nuclear disarmament and its verification

Hungary fully supports the ultimate goal of a complete, irreversible and verifiable nuclear disarmament for the pursuit of which article VI of the Treaty on the Non-Proliferation of Nuclear Weapons provides the fundamental framework, as part of a balanced implementation of all provisions of the Treaty, which remains the cornerstone of multilateral nuclear disarmament, the global nuclear non-proliferation regime and the peaceful uses of nuclear energy.

States Members of the United Nations have divergent views on how to accomplish legally binding multilateral nuclear disarmament. However, there is general agreement that effective and reliable verification and monitoring mechanisms and instruments are crucial building blocks for the realization of a world free of nuclear weapons.

The Government of Hungary shares the view that adequate verification tools and capabilities, as essential requirements, should be readily available by the time the necessary political and security conditions are in place for the negotiation and conclusion of future multilateral nuclear disarmament agreements. Therefore,

Hungary not only voted in favour but also co-sponsored General Assembly resolution 71/67 on nuclear disarmament verification, requesting the Secretary-General to establish a group of governmental experts to consider the role of verification in advancing nuclear disarmament.

Another strong reason for the Government of Hungary to support General Assembly resolution 71/67 was the firm conviction that nuclear-weapon States and non-nuclear-weapon States should work together on multilateral nuclear disarmament verification, in conformity with their obligations under the Treaty on the Non-Proliferation of Nuclear Weapons. While nuclear-weapon States bear a special responsibility in this area, non-nuclear-weapon States can also make an important contribution to this complex endeavour. Furthermore, their involvement enhances the transparency of the whole process and also increases confidence by providing assurance of compliance with future multilateral nuclear disarmament treaty obligations.

Contribution of Hungary to nuclear disarmament with a view to its verification

Hungary was a member of the group of governmental experts set up by the General Assembly in resolution 67/53 to make recommendations on the possible aspects that could contribute to future negotiations on a non-discriminatory, internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, which would be the next logical step towards multilateral nuclear disarmament. The final report of the group of governmental experts, adopted by consensus, covers verification issues extensively. Therefore, the work of the high-level expert preparatory group on the fissile material cut-off treaty set up by the Assembly in resolution 71/59 to make recommendations on substantial elements of a future treaty and that of the group of governmental experts tasked to consider the role of verification in advancing nuclear disarmament established by the Assembly in resolution 71/67 should be complementary and mutually reinforcing.

The Government of Hungary has also been a staunch supporter of a comprehensive ban on nuclear tests. Consequently, between 2013 and 2015 Hungary served as one of the two article XIV co-coordinators mandated to promote the entry into force of the Comprehensive Nuclear-Test-Ban Treaty. Lessons learned from the activities of the Comprehensive Nuclear-Test-Ban Treaty Organization are also relevant in the context of General Assembly resolution 71/67, because, although still not in force, the Comprehensive Nuclear-Test-Ban Treaty has a comprehensive verification regime including a unique global International Monitoring System that can provide the international community with valuable information concerning the verification of nuclear disarmament.

As a non-nuclear-weapon State, Hungary has gained considerable experience relevant to nuclear disarmament verification through the Hungarian safeguards support programme. This programme was initiated nearly two decades ago, with the objective of contributing to the strengthening of the effectiveness of the International Atomic Energy Agency safeguards system, playing a vital role in the implementation of relevant obligations under the Treaty on the Non-Proliferation of Nuclear Weapons. The support programme focuses on three major groups of activities: (a) hosting and providing expertise for different training activities for IAEA, including comprehensive inspection exercise training and additional protocol complementary access exercise; (b) providing facility environment for testing newly developed safeguards technologies, especially containment and surveillance equipment either serving the traditional safeguards approach or those to be used under the integrated safeguards systems; and (c) supporting international safeguards verification by *developing methods and equipment for nuclear material*

identification for national safeguards verification purposes. Hungary also actively takes part in solving new, challenging issues that emerge through the implementation of novel safeguards and verification technologies.

Group of governmental experts established by the General Assembly in resolution 71/67

The group of governmental experts established by the General Assembly in resolution 71/67 does not have to start its activities from scratch, since it can draw on the outcome of work carried out earlier in this field. In the United Nations framework, the most important documents are the 16 Principles of Verification agreed by the Disarmament Commission in 1988, the studies produced by two groups and a panel of governmental experts and the 2008 report of the United Nations Office of Disarmament Affairs on verification in all its aspects, including the role of the United Nations in the field of verification.

More recently, there have been a number of relevant bilateral and wider initiatives such as the initiative of Norway and the United Kingdom of Great Britain and Northern Ireland, the Quad Nuclear Verification Partnership started by Norway, Sweden, the United Kingdom and the United States of America, and the International Partnership on Nuclear Disarmament Verification, launched by the United States. These projects focus on different aspects of nuclear disarmament verification, but all of them are aimed at assisting the development of an effective and reliable verification system for nuclear disarmament.

The experience the international community has gained from already existing treaty verification mechanisms (e.g., the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction) should also be carefully studied by the group of governmental experts.

The Government of Hungary is of the view that the main objective of the group of governmental experts should be to review and integrate into the United Nations system the political, security, technical and legal aspects of lessons learned from the above-mentioned sources of information. This would enable all States Members to better understand the complexity of the issues involved and facilitate their contribution to addressing monitoring and verification challenges associated with the entire lifecycle of nuclear weapons including their dismantlement and disposition.

India

[Original: English]
[11 May 2017]

India voted in favour of General Assembly resolution 71/67 in view of the importance of increasing common understanding on international and effective verification in multilateral legal instruments for the elimination of weapons of mass destruction, which would also be an essential element of a comprehensive convention on nuclear weapons.

India acknowledges the utility of technical work on verification as proposed in resolution 71/67, which can build upon past work done in the Disarmament Commission on the subject, and keeping in mind the principles enshrined in the tenth special session of the General Assembly. At the same time, such work cannot prejudge the nature and scope of any eventual nuclear disarmament instrument, which would in turn impact on the verification elements to be agreed and specific to that instrument. Work on verification in the proposed group of governmental experts cannot be a substitute for *the established disarmament machinery — the Conference*

on Disarmament and the Disarmament Commission — addressing the issue of nuclear disarmament verification in line with the scope of a future comprehensive instrument on nuclear disarmament.

In India's view, the context for the resolution is global and non-discriminatory nuclear disarmament and the complete elimination of nuclear weapons. In this regard, any role for the International Atomic Energy Agency (IAEA) would be limited to what is specified in the statute of IAEA. Relevant verification experience from a treaty banning an entire category of weapons of mass destruction and providing for their internationally verifiable elimination, namely the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, could also be usefully studied in this context. International and effective verification is also an important aspect of the agreed mandate for a future treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices.

Japan

[Original: English]
[2 June 2017]

Development and strengthening of practical and effective nuclear disarmament verification measures

Japan has maintained a realistic and practical approach in promoting nuclear disarmament, and underlines the importance of studying potential verification measures and activities, as well as of developing tools and technologies for verification in the nuclear disarmament process. This will facilitate medium- and long-term efforts to achieve a world free of nuclear weapons.

Japan, as a non-nuclear-weapon State, has amassed highly advanced knowledge and technologies related to the peaceful uses of nuclear energy, including robust safeguards technology, as well as expertise in on-site inspections of relevant arms control and disarmament instruments including the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction. This knowledge can contribute to discussions on nuclear disarmament verification.

Based on the above-mentioned expertise, Japan has actively contributed to discussions on verification technologies as well as operating procedures of on-site inspections in the International Partnership for Nuclear Disarmament Verification, in which both nuclear-weapon States and non-nuclear-weapon States work together to explore solutions to complex challenges involved in the verification of nuclear disarmament.

In order to achieve a world free of nuclear weapons, a robust and reliable international verification regime must be established with engagement by both nuclear-weapon States and non-nuclear-weapon States. In this context, the group of governmental experts on nuclear disarmament verification to be established under the General Assembly in 2018 can build on the work of the International Partnership.

Existing research efforts for the verification of nuclear disarmament include the Trilateral Initiative, a cooperative effort by the International Atomic Energy Agency (IAEA), the United States of America and the Russian Federation; the United States-United Kingdom of Great Britain and Northern Ireland technical collaboration; and the United Kingdom-Norway Initiative on verification of

warhead dismantlement. Discussions on nuclear verification can build on these previous initiatives, as well as the International Partnership.

The following factors should be taken into account, among others, in studying and developing practical and effective measures on nuclear disarmament verification:

(a) Verification must be effective, and must provide sufficient confidence and transparency to relevant parties to an agreement that other parties are complying with obligations;

(b) Verification mechanisms must prevent transfer of proliferation-sensitive information, including design information and manufacturing techniques related to nuclear weapons or other explosive devices;

(c) Verification mechanisms must ensure the safety of personnel, such as inspectors, carrying out verification activities. It must also ensure the security of items to be verified which may be targeted by criminal activity, such as nuclear materials and related facilities;

(d) Verification mechanisms must contribute to confidence-building;

(e) Verification mechanisms must be as effective as possible while still considering its efficiency.

Importance of such measures in achieving and maintaining a world free of nuclear weapons

The international community has demonstrated increasing interest in how nuclear-weapon States comply with and implement treaties or agreements relating to nuclear disarmament and arms control. Verifiability makes it possible to confirm whether parties implement and comply with their treaty obligations. The three principles of verifiability, irreversibility and transparency are needed to advance the nuclear disarmament process, and are indispensable to ensuring the effectiveness of nuclear disarmament measures. These principles have been mentioned in the relevant documents, including the final document of the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons.

Pursuant to article VI of the Treaty on the Non-Proliferation of Nuclear Weapons, all States parties, including non-nuclear-weapon States as well as nuclear-weapon States, are responsible for efforts towards a world free of nuclear weapons.

It is extremely difficult, technically, to conduct verification on nuclear disarmament even among nuclear-weapon States because it involves national security at the most confidential level. Serious challenges will arise in nuclear disarmament verification efforts with the involvement of non-nuclear-weapon States due to obligations in articles 1 and 2 of the Treaty on the Non-Proliferation of Nuclear Weapons, under article 1, nuclear-weapon States undertake not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly, and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices; under article 2 of the Treaty, non-nuclear-weapon States undertake not to acquire or exercise control over nuclear weapons or other nuclear explosive devices and not to seek or receive assistance in the manufacture of such devices. Nuclear disarmament verification should provide credible assurance while ensuring the protection of highly sensitive and confidential information.

As the number of nuclear weapons decreases, the strategic value of a single nuclear warhead will increase, as will the level of assurance required for verification on disarmament treaties. Verification and transparency will thus become increasingly important. In addition, in order to realize the goal of a world without nuclear weapons, a robust and reliable international verification system with an involvement of nuclear-weapon States will need to be established.

While further studies are still needed on the role to be played by non-nuclear-weapon States in actual verification activities for the nuclear disarmament of nuclear-weapon States, it is imperative to engage both nuclear-weapon and non-nuclear-weapon States in efforts to construct a robust and credible international verification regime. Non-nuclear-weapon States' technical and institutional contributions are crucial to attaining and maintaining a world free of nuclear weapons.

Jordan

[Original: Arabic]
[19 May 2017]

Jordan is fully committed to the principles of nuclear disarmament. The total elimination of such weapons is the only guarantee against their use or threat of use. Jordan does, however, have an inherent right to the peaceful use of nuclear energy in accordance with the standards of the International Atomic Energy Agency and under its supervision.

Weapons of mass destruction are the greatest challenge facing the world, and it would be better for everyone if they did not exist. However, nuclear disarmament faces significant obstacles and has not been given the focus that it requires. The cost of producing and manufacturing nuclear weapons accounts for a huge share of the concerned States' military budgets.

The Treaty on the Non-Proliferation of Nuclear Weapons is the cornerstone of the international disarmament and non-proliferation regime. Yet although it has gained worldwide acceptance, its effects have not been far-reaching enough. Jordan believes that the current situation makes matters more difficult: the world is set to drift towards a nuclear arms race.

Jordan continues to support and encourage every effort to establish a nuclear-weapon-free zone. However, certain States in the region continue to stand in the way of the peoples' wish to live in a world free of nuclear terror. Their purpose is to control the region and interfere in the internal affairs of its States.

Jordan supports all of the Agency's efforts to consolidate and integrate the safeguards regime with a view to verifying that the nuclear activities of all States, without distinction, are carried out in a peaceful manner. IAEA is the only organization empowered to monitor States' safeguards agreements. The international community must take seriously the fears of numerous non-nuclear States and begin to prepare a legally binding instrument to prohibit nuclear weapons with a view to their elimination.

International and regional efforts towards the elimination of nuclear weapons are a source of hope and optimism that the world is becoming more aware of the danger posed by their proliferation. However, those efforts must be backed by the genuine and strong political will of all States, particularly those that possess and manufacture such weapons.

Lebanon

[Original: Arabic]
[8 May 2017]

The Ministry of National Defence wishes to make the following points:

- Lebanon does not possess or produce nuclear weapons. Lebanese territory is therefore completely free of all forms of nuclear weapons.
- Lebanon supports and welcomes all initiatives to achieve nuclear disarmament, particularly in the Middle East, and emphasizes that the region must become free of weapons of mass destruction.
- Lebanon joins its voice to those of the other Arab States and stresses before the international community that all States, particularly Israel, must comply with international law and ensure complete nuclear disarmament.

Madagascar

[Original: French]
[22 June 2017]

The United Nations has made the following recommendations to Member States:

– Further efforts should be made to reduce and eliminate all types of nuclear weapons;

– The nuclear-weapon States should accomplish the total elimination of their nuclear arsenals;

– Practical nuclear disarmament verification measures should be strengthened.

In that regard, verification requires capacities for detection, dissuasion and the building of confidence among parties in order to establish effective multilateral mechanisms in the context of resolution 71/67.

Given that Madagascar does not possess nuclear weapons and has no qualified personnel in that field, it is not in a position to provide relevant information on the technical aspects of nuclear disarmament and must therefore seek the assistance of other States on that subject.

Mexico

[Original: Spanish]
[12 May 2017]

Mexico has stressed the urgency of strengthening the nuclear disarmament and non-proliferation regime and works to renew the international community's commitment to advance towards the definitive elimination of these weapons, through multilateral nuclear disarmament negotiations, in accordance with the principles of verification, irreversibility and transparency.

Mexico has repeatedly indicated that unilateral, bilateral and regional efforts to reduce nuclear weapons should be verified internationally, recalling also that States parties to the Treaty on the Non-Proliferation of Nuclear Weapons have committed to pursue negotiations in good faith to halt the nuclear arms race under strict and effective international control. It has further indicated that one of the systematic steps for nuclear disarmament agreed by the parties to the Treaty is the

training of senior officials in non-nuclear-weapon States to enable them to participate in nuclear disarmament verification.

Mexico believes that international verification, as a confidence-building measure, is key to assuring nuclear disarmament. Such verification must be transparent.

During the cycle of the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Mexico, together with the members of the New Agenda Coalition, submitted a working paper entitled "Multilateral nuclear disarmament verification: applying the principles of irreversibility, verifiability and transparency". The document is intended to contribute to the implementation of the action plan adopted at the 2010 Review Conference, by urging support for the development of appropriate verification arrangements, within the context of IAEA, to ensure the irreversible removal of fissile material designated by each nuclear-weapon State as not required for military purposes.

The document also reflects concern at the failure to adopt concrete measures to strengthen the safeguards of the nuclear-weapon States, despite the fact that those States have signed and ratified additional protocols to their safeguards agreements. In this regard, it highlights the opposite case of the non-nuclear-weapon States, which have made efforts to strengthen the safeguards system, including the development of comprehensive safeguards agreements, the Model Additional Protocol and integrated safeguards.

It is noted in the document that fissile material that has been declared as permanently removed from the military programmes of nuclear-weapon States, including material that has been placed under IAEA safeguards, can still be withdrawn from those safeguards and used in the development of nuclear weapons. Hence, these measures do not comply with the principles of irreversibility, verifiability and transparency that have already been agreed, and provide no assurances regarding the irreversible removal of fissile material from military programmes.

Moreover, it is noted that a multilateral verification regime must be effective and credible, while respecting the requirement to maintain confidentiality in relation to sensitive weapons design and composition.

In addition, it is stated in the document that it is important, within the framework of IAEA, to conclude strengthened safeguards and enhanced verification arrangements to ensure the application of safeguards in perpetuity on material irreversibly removed from nuclear weapons programmes. IAEA is called on to take the necessary measures to support the development of new legally binding agreements, and it is proposed that the new verification measures should be underpinned by the reaffirmation of a moratorium on fissile material production for nuclear weapons.

Through the New Agenda Coalition's paper, nuclear-weapon States are encouraged to initiate, or where appropriate accelerate, multilateral arrangements to place fissile material no longer used for military purposes under the IAEA verification system and to allocate such material for peaceful purposes. Those States are also urged to commit to submitting accurate, complete and comprehensive annual reports on their nuclear arsenals; the existence of weapons-grade highly enriched uranium and plutonium; production records; and material irreversibly removed from nuclear weapons programmes.

In parallel, at the express invitation of the United States of America, Mexico participates in the International Partnership for Nuclear Disarmament Verification, the purpose of which is to promote discussion on how the dismantlement of nuclear

weapons would be verified multilaterally and with the participation of nuclear-weapon and non-nuclear-weapon States. The objective of these discussions between experts and diplomats is to define capacity-building needs in countries, such as Mexico, where there are no nuclear weapons, as well as to provide an opportunity to strengthen ties of cooperation among peers.

The International Partnership's work has two main stages: a first stage dedicated to information on best practices in the matter, in order to conduct a nuclear weapon dismantlement verification exercise; and a second stage focused on establishing action lines that will define the way forward for the initiative itself.

Mexico has participated in the four plenary meetings held by the Partnership, namely:

- Washington, D.C., 19 and 20 March 2015, chaired by the United States, held with the aim of launching the initiative. At that meeting there was an initial exchange of views on the general situation and of some specific experiences of disarmament and verification cooperation, as well as discussions related to the initiative's objectives and future agenda.
- Oslo, 16 to 18 November 2015, with the aim of making progress in the work of the Partnership. On that occasion, three working groups were established (monitoring and verification objectives, on-site inspections and technical challenges and solutions); achievements and lessons learned were presented; dialogue between nuclear-weapon and non-nuclear-weapon States was promoted; the different procedures in the various monitoring and verification regimes were presented; and understanding of other verification and disarmament research efforts was enhanced.
- Tokyo, 27 June to 1 July 2016, at which parallel meetings of the three working groups were held. Mexico participated in the meetings of working group 1, focused on defining the objectives and principles for the establishment of a framework for action for a hypothetical monitoring, verification and disarmament scenario involving one or more nuclear weapons.
- Abu Dhabi, 1 to 3 November 2016, with the goal of defining the principles that should underpin verification.

Mexico also participated in the working group meetings that took place from 6 to 8 March 2017 in Berlin.

Mexico will continue to promote nuclear disarmament verification, in the belief that it:

- Allows the parties to assess the status of implementation of an agreement and provides a good indicator of the functioning of the agreement.
- Discourages non-compliance with the provisions of the agreement.
- Gives an advance warning of any violation of the terms of an agreement.
- Confirms that the obligations of an agreement are met effectively while helping to build confidence and certainty surrounding the agreement and confirms that its mechanisms are functioning as planned, thus assuring peace between the parties.

Norway

[Original: English]
[31 July 2017]

Norway was one of the main sponsors of General Assembly resolution 71/67 on nuclear disarmament verification, and reiterates its firm commitment to contribute to further efforts to reduce and eliminate all types of nuclear weapons. On 26 April 2016, the Norwegian parliament adopted a unanimous decision asking the Government to work actively towards the goal of a world free of nuclear weapons and to promote the implementation of the Treaty on the Non-Proliferation of Nuclear Weapons. The decision also asked the Government to play a leading role in efforts to promote non-proliferation and disarmament, with a view to achieving balanced, mutual, irreversible and verifiable elimination of nuclear weapons. The Government was asked to take a long-term approach to those efforts in order to secure a legally binding framework for achieving this.

Verification will be a key building block for achieving and maintaining a world without nuclear weapons. At the Review Conferences of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, the nuclear-weapon States have reaffirmed their unequivocal undertaking to accomplish the total elimination of their nuclear weapons. The nuclear arsenals have been dramatically downsized in recent decades, as a result of either bilateral agreements (such as the Strategic Arms Reduction Treaty and the Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, the Treaty between the Russian Federation and the United States of America on Strategic Offensive Reductions and the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles), reciprocal declarations or unilateral measures. Some agreements have led to the development of verification and monitoring instruments, but only for the parties involved. It should be noted that the parties to the Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms have kept the broader international community informed on the implementation of this treaty, which is essential from the perspective of transparency.

The key principles of nuclear disarmament — irreversibility, verifiability and transparency — have been set out in a number of outcome documents from the United Nations as well as from Review Conferences of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. There have been considerable efforts within the United Nations to further refine generic approaches to verification of disarmament in all its aspects, through the 16 Principles of Verification of the Disarmament Commission and the work carried out by groups of governmental experts set up by the General Assembly. Broader verification and inspection tools have been developed at the multilateral level under non-nuclear treaties such as the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction.

Within the nuclear field, important experience has been gained from the Comprehensive Nuclear-Test-Ban Treaty monitoring system and from the implementation of the International Atomic Energy Agency safeguards agreements, including the additional protocol. These non-proliferation measures are essential in creating a more conducive environment for nuclear disarmament. They should be further strengthened so that they can form part of the legal architecture in a world without nuclear weapons.

While the nuclear-weapon States have the prime responsibility for reducing and eventually eliminating their nuclear arsenals, non-nuclear-weapon States should also contribute to this end. Recalling the tenth principle of the Disarmament Commission, which reads "All States have equal rights to participate in the process of international verification of agreements to which they are parties", it follows that non-nuclear-weapon States have a legitimate right to be assured that nuclear-weapon States actually carry out their obligations under future multilateral nuclear disarmament regimes. The involvement of non-nuclear-weapon States in verification and inspection arrangements must comply with the non-proliferation obligations of the Non-Proliferation Treaty.

In its resolution 71/67, the General Assembly noted the contribution of representatives of civil society from the non-governmental, academic and research communities in nuclear disarmament verification. In this context, it should be noted that for many years Norwegian experts have been exploring ways in which non-nuclear-weapon States can obtain the necessary assurances without acquiring sensitive information. Norway has provided funding for the United Nations Institute for Disarmament Research and the Verification Research, Training and Information Centre based in the United Kingdom of Great Britain and Northern Ireland. Norway was also represented in the ad hoc group of scientific experts in the lead-up to the Comprehensive Nuclear-Test-Ban Treaty negotiations.

The United Kingdom-Norway Initiative

Since 2007, Norway has cooperated with the United Kingdom on nuclear warhead dismantlement verification research through the United Kingdom-Norway Initiative. As the first instance of collaboration between a nuclear-weapon State and a non-nuclear-weapon State, the Initiative has paved the way for broadening nuclear weapon verification research further to include non-nuclear-weapon States.

The United Kingdom-Norway Initiative has demonstrated that it is possible for a nuclear-weapon State and a non-nuclear-weapon State to work constructively in partnership on the complex issues that nuclear weapon dismantlement verification raises. The Initiative has made progress on the development of mutually trusted equipment, it has tested inspection procedures for specific tasks under "managed access" arrangements in nuclear facilities, and it has researched factors that influence the outcome of inspections in nuclear weapon verification. The Initiative has also involved a significant outreach component, with participants from a number of other States attending Initiative research exercises and briefings.

Norway and the United Kingdom presented comprehensive working papers at the 2010 and 2015 Review Conferences detailing the activities carried out and the lessons learned through the Initiative.

Broader initiatives

Norway, Sweden, the United Kingdom and the United States have entered into a multi-year arms control simulation initiative. The Quad Nuclear Verification Partnership builds on experience from the United Kingdom-Norway Initiative and previous United Kingdom-United States verification and arms control exercises. With its long-standing track record in the field of arms control, verification and disarmament, Sweden brings valuable additional expertise to the partnership.

The Quad can make a tangible contribution to the current Non-Proliferation Treaty cycle and to the fulfilment of article VI of the Treaty. It aims to provide the international community with:

- Capacity-building, in the form of hands-on practical experience of nuclear weapons-related verification
- A realistic testbed for exercising and evaluating monitoring technologies that all states could use to support their work on verification issues
- A model verification protocol — or standard operating procedure — that could contribute to future discussions on how treaty monitoring activities could be implemented in the real world

This step toward multilateralism will be valuable for understanding the impact of including multiple nuclear-weapon States and non-nuclear-weapon States in future verification activities. The aim is to demonstrate that such collaboration is beneficial without promoting proliferation.

Norway highlights the importance of the International Partnership for Nuclear Disarmament Verification, in which it is an active member, in pursuing the development of a culture of cooperation and trust. This partnership can also advance a common understanding of the technical issues of nuclear disarmament verification among a larger group of States through the sharing of experience and coordinated efforts.

The 25 countries in the International Partnership are working to develop innovative approaches, methodologies and techniques for nuclear disarmament monitoring and verification, so that they subsequently may be shared with the broader international community. The aim is that these will in turn foster a culture of confidence, which is essential for making further progress on nuclear disarmament.

In November 2015, Norway hosted the second plenary meeting of the International Partnership, where a decision was made to establish the following three separate working groups and their terms of reference:

- Working group on monitoring and verification objectives
- Working group on on-site inspections
- Working group on technical challenges and solutions.

While acknowledging that the wider aspects of the nuclear weapons cycle needed to be addressed, it was decided to start with a focus on warhead dismantlement.

Group of scientific experts in relation to the Comprehensive Nuclear-Test-Ban Treaty

From 1976 to 1996, the group of scientific experts under the Conference on Disarmament worked on the design, development and testing of a global monitoring system for verifying compliance with a possible future Comprehensive Nuclear-Test-Ban Treaty. During these years, the group of scientific experts developed a culture of cooperation and trust among scientists that facilitated an understanding of technical issues, which in turn led to the group agreeing on the specifics of a monitoring system. The agreed design could then be readily used as a basis for parts of the verification protocol developed during the Comprehensive Nuclear-Test-Ban Treaty negotiations under the Conference on Disarmament from 1994 to 1996. Lessons learned from the group of scientific experts could be useful when assessing how to verify compliance with a possible future treaty or treaties on nuclear disarmament.

Capacity-building

In order to support the United Kingdom-Norway Initiative, relevant Norwegian institutions have been engaged in extensive cooperation on topics related to verification. The major contributors have been the Norwegian Radiation Protection Authority, the Norwegian Defence Research Establishment and the Institute for Energy Technology, the Norwegian Seismic Array, as well as the Norwegian Ministry of Foreign Affairs. This Norwegian network has also developed strong collaborative ties with partners in the United Kingdom, the United States, Sweden, and IAEA and research institutions such as the Nuclear Threat Initiative and the Verification Research, Training and Information Centre.

Within the International Partnership, Norway has been engaged in a producing a capacity-mapping document that outlines existing skills and areas of expertise applicable to key monitoring and verification activities, and identifies possible gaps.

There is a need for experts who are knowledgeable about the political dimensions of disarmament, non-proliferation and arms control, as well as about the many technical aspects of the complex process of dismantling nuclear weapons in a safe, secure and verifiable manner. This process may need to be carried out in steps, starting with the promotion of a verification culture in member States and building up networks. This will in turn facilitate efforts to develop concepts until requirements for verification have been refined to the extent that the work of training verification teams for a global nuclear verification regime can begin. Centres of excellence for both conceptual work and the training of inspectors could be considered.

The way ahead

A key motivation behind General Assembly resolution 71/67 is to secure broader support for nuclear disarmament in the United Nations, thus engaging more Member States. While this is clearly a long-term process, Norway expects the new group of governmental experts to draw on verification experience gained and lessons learned from past treaties. This includes United Nations monitoring and inspection arrangements and the work carried out by the United Kingdom-Norway Initiative, the Quad Nuclear Verification Partnership and the International Partnership. Capacity-building is another important area to explore further.

The group of governmental experts report should contain practical recommendations, which can subsequently be considered by the General Assembly or further addressed by the Conference on Disarmament or the Disarmament Commission, as stipulated in General Assembly resolution 71/67.

Pakistan

[Original: English]
[31 July 2017]

Pakistan is committed to the vision of a world free of nuclear weapons. This shared objective can best be realized through a universal, verifiable, non-discriminatory and comprehensive convention on nuclear weapons.

Verification would be an essential and extremely vital element for ensuring adherence to and compliance with any future agreement(s) on nuclear disarmament. Verification would be indispensable for building confidence among the parties concerned regarding the achievement and maintenance of a world without nuclear weapons. Nuclear disarmament verification would have to be undertaken by an independent and representative international treaty body, under adequate oversight

of the concerned States parties, in a transparent, non-discriminatory, objective and technically sound manner.

The final document of the tenth special session of the General Assembly provides an overarching framework to pursue disarmament measures in an equitable and balanced manner in order to ensure the right of each State to equal and undiminished security at the lowest possible level of armaments and military forces, ensuring that no individual State or group of States may obtain any advantage over others. It provides adequate guidance regarding provision of satisfactory measures of verification in negotiations of disarmament and arms limitation agreements in order to create the necessary confidence and ensure that they are being observed by all parties. In the final document of the tenth special session of the General Assembly it is also noted that the form and modalities of the verification to be provided for in any specific agreement depend upon and should be determined by, the purposes, scope and nature of the agreement. Agreements should provide for the participation of parties directly or through the United Nations system in the verification process. Where appropriate, a combination of several methods of verification as well as other compliance procedures should be employed.

The question of disarmament verification can be best addressed in the context of a specific treaty regime as opposed to in a generic and abstract manner. At the same time, maintaining an appropriate balance between the needs of verification on the one hand and legitimate national security concerns on the other would be essential.

The group of governmental experts mandated by General Assembly in its resolution 71/67 can contribute towards advancing understanding and addressing technical challenges of nuclear disarmament verification and monitoring, including tools, solutions and methods and capacity-building issues. Such efforts would provide Member States with a compendium or list of approaches and technical issues to be taken into consideration when discussing nuclear disarmament and arms control measures.

Paraguay

[Original: Spanish]
[31 July 2017]

Paraguay is concerned about actions aimed at improving the quality of nuclear weapons, through the development of a new generation of such weapons, and at modernizing existing nuclear arsenals in order to extend their lifespans, which could lead to a new arms race. The importance that nuclear weapons have been given in current military doctrine puts nuclear-weapon States and non-nuclear-weapon States alike at risk.

It is essential to move towards a world without nuclear weapons. The only truly effective and valid guarantee against the use or threat of use of nuclear weapons is complete and verified nuclear disarmament. The Treaty on the Non-Proliferation of Nuclear Weapons is the essential framework for making progress towards that objective, which can only be achieved through the implementation of practical measures under a strategy that will require political will on the part of nuclear-weapon States and good relations among those countries.

While no progress has been made with regard to the concrete steps towards nuclear disarmament agreed on at the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, the 2010 action plan remains valid and provides a starting point for achieving nuclear disarmament. Implementation of the action plan will be dependent on appropriate work being

done on the matter during the 2020 review cycle of the Treaty on the Non-Proliferation of Nuclear Weapons.

The disarmament process must be transparent and irreversible, provide for effective verification mechanisms and be based on a universal, non-discriminatory and legally binding framework. Verification is necessary to improve confidence in and the transparency of the nuclear disarmament process. If information is not gathered through verification, countries will have to assess compliance individually. IAEA has extensive experience that could provide the basis for the establishment of a verification and compliance regime. To discourage any type of violation, the regime should be strict and effective and build trust. In that connection, Paraguay has promoted initiatives to foster trust among States during its term on the IAEA Board of Governors, from 2015 to 2017, in order to cultivate constructive foreign policy.

The promotion of nuclear-weapon-free zones is a practical and effective nuclear disarmament verification measure, as the establishment of such zones, while not an end in itself, is a very important intermediate step towards general and complete disarmament under effective international control. Another important measure is the enhancement of transparency as concerns nuclear arsenals. This includes the provision of information on the quantities and types of nuclear weapons, both deployed and non-deployed, and the budgets allocated to them.

Sweden

[Original: English]
[12 May 2017]

Verification: not a goal but a tool

Sweden supported General Assembly resolution 71/67 on nuclear disarmament verification. The nuclear-weapon States have, through article VI in the Treaty on the Non-Proliferation of Nuclear Weapons, undertaken to accomplish the total elimination of their nuclear weapons. While verification is not a goal in itself, it is a tool to help build confidence and transparency in disarmament.

Sweden has a long history of working for international disarmament, and not least nuclear disarmament. Its goal is a world free of nuclear weapons. When advocating disarmament, we also stress the need for effective verification. Both political will and technical solutions are needed to take disarmament forward.

Principles of verification: irreversibility, transparency and verification

Verification is a necessary part of any disarmament agreement. The principles of irreversibility, transparency and verification should guide the work, as agreed in the 13 steps at the 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons and the 2010 action plan. Verification is needed along the way, in connection with every building block we put in place in disarmament and non-proliferation. It is also needed when we reach zero, to maintain a nuclear weapon-free world.

Building on previous experience: focusing on technical solutions

Verification regimes have often been developed as an integral part of arms control treaties, as part of the overall negotiations. A political agreement on the norm has often preceded the development of verification methods and tools, as being the case for the treaties on strategic arms reduction and the Treaty between

the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles.

There are, however, examples where the technical solutions have preceded and paved the way for a treaty. Technical solutions have in these instances helped to create confidence needed and helped parties to agree politically. The Comprehensive Nuclear-Test-Ban Treaty is such an example. The group of scientific experts under the Conference on Disarmament was established under Swedish chairmanship in Geneva in 1982. For 14 years, the expert group elaborated on a comprehensive verification regime that would be capable of detecting all nuclear explosions and that would be able to enforce a total ban on nuclear explosions. The work of the group of scientific experts helped make the Comprehensive Nuclear-Test-Ban Treaty that was finally agreed upon in 1996, a reality. The experiences from the group of scientific experts can provide useful guidance when setting up working groups on any future verification regime on disarmament.

When conducting the work in the group of governmental experts it would be important to draw on lessons learned from previous verification experience as well as initiatives such as the United States-United Kingdom of Great Britain and Northern Ireland technical cooperation for arms control and the United Kingdom-Norway Initiative. There has also been work done by civil society organizations such as the Nuclear Threat Initiative verification pilot project and the United Kingdom-based Verification Research, Training and Information Centre, in which Sweden has participated.

The group of governmental experts should build on, but not duplicate, what has been achieved within the International Partnership for Nuclear Disarmament Verification. The International Partnership has primarily focused on warhead dismantlement. Sweden is an active member of the International Partnership and co-chair of the working group on technical challenges and solutions. Nuclear warhead verification will require extensive collaboration, technology development and testing of different technologies. The working group has built a toolbox of technologies covering different methods, from radiation measurements on fissile material and surrounding high explosives, to chain of custody technologies and change detections.

Sweden is also engaged in a multi-year arms control simulation initiative together with the United States, the United Kingdom and Norway called the Quad Nuclear Verification Partnership. The aim is to provide the international community with capacity-building, a testbed for exercising and evaluating monitoring technologies and a model verification protocol.

In order to complement previous initiatives, it could, for example, be useful if the group of governmental experts were to assess how verification approaches change when going from high numbers of nuclear weapons to low numbers and to eventually reach and maintain a world free of nuclear weapons. For example, the verification intrusiveness and timeliness could be two aspects affected. In addition, the technical solutions would presumably depend on whether the verification is concerned with verifying a reduction of nuclear weapons, a limitation on the total numbers, or verifying that there is no ongoing development or production of nuclear weapons.

Nuclear-weapon States and non-nuclear-weapon States working together

While the nuclear-weapon States bear the responsibility in reducing and eventually eliminating their nuclear arsenals, non-nuclear-weapon States also have a role to play in international verification processes to ensure credibility and to ensure that all States and their citizens have confidence in the process.

As an illustration, it has been key for the credibility of the International Atomic Energy Agency (IAEA) that its inspectors come from different corners of the world and routinely perform verification at nuclear sites in member States. The verification system of IAEA has also been provided with a broader mandate by the introduction of the additional protocol. It is essential for the credibility of the Comprehensive Nuclear-Test-Ban Treaty Organization that non-nuclear-weapon States contribute with monitoring technologies and techniques. Sweden, for example, has developed the noble gas detection system SAUNA, which is crucial for detecting radioactivity emanating from underground nuclear explosions.

Switzerland

[Original: English]
[18 May 2017]

Switzerland was one of the lead sponsors of General Assembly resolution 71/67 because it has long supported verifiability, irreversibility and transparency, as core principles of nuclear disarmament and because it considers nuclear disarmament verification as essential in view of the credible reduction or elimination of nuclear weapons. Switzerland wishes to underline that, pending additional agreements mandating the verifiable destruction and elimination of nuclear warheads and arsenals, and irrespective of different views on how nuclear disarmament can be achieved, nuclear disarmament verification instruments, techniques and methods should be advanced systematically.

States possessing nuclear weapons bear a special responsibility to verifiably reduce and ultimately eliminate their arsenals. However, all States share the responsibility to achieve and maintain a world without nuclear weapons. This will, inter alia, require one or more multilateral agreements, backed by a strong, multilateral system of verification. Accordingly, non-nuclear-weapon States, in cooperation with nuclear-weapon States, have a role to play in the identification and development of credible, practical and effective multilateral nuclear disarmament verification measures.

While nuclear and non-nuclear verification measures have already been developed and are globally implemented on a daily basis, additional efforts must be made to develop the set of measures needed to verify. Such nuclear disarmament verification measures must allow the parties to the relevant agreement(s) to gain reassurance of compliance by other parties with their commitments and hence increase mutual trust and confidence.

Developing and agreeing on credible, efficient and at the same time cost-effective multilateral nuclear disarmament verification measures is likely to be technically complex and militarily and politically sensitive. In this regard, States could benefit from the relevant experience by the Comprehensive Nuclear-Test-Ban Treaty Organization, the Organisation for the Prohibition of Chemical Weapons, the International Atomic Energy Agency or the Organization for Security and Cooperation in Europe, and from work done by States (such as the United States of America and the Russian Federation or the Quad Nuclear Verification Partnership), civil society and academic and other specialist institutions. Experiences gained in the International Partnership on Nuclear Disarmament Verification are highly relevant.

Switzerland is convinced that the group of governmental experts on nuclear disarmament verification can make an important contribution to advancing nuclear disarmament in general and multilateral nuclear disarmament verification in particular. In this regard, the group of governmental experts should serve to anchor

existing expertise on nuclear disarmament verification (whether resulting from ongoing treaty implementation or from broader partnerships such as the International Partnership on Nuclear Disarmament Verification) in the United Nations system, without duplicating existing efforts. The group of governmental experts should identify nuclear disarmament verification challenges, and how to overcome them, and identify the levels of information required to ensure the credibility of multilateral verification. Finally, the group of governmental experts should make practical recommendations for follow-up work, within the General Assembly, the Conference on Disarmament, the Disarmament Commission or by the United Nations Institute for Disarmament Research or any other appropriate forum.

Ukraine

[Original: English]
[12 May 2017]

Ukraine fully supports efforts by the International Atomic Energy Agency (IAEA) aimed at strengthening effectiveness and improving efficiency of its safeguards system, which is one of the main elements of nuclear disarmament verification. It welcomes the progress made in the area of conceptualization and development of safeguards implementation at the State level.

In this regard, Ukraine has been diligently implementing full-scope safeguards since 1995 in accordance with the agreement between Ukraine and IAEA for the application of safeguards in connection with the 1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons and the additional protocol thereto of 2000. The State System of Accounting for and Control of Nuclear Material in Ukraine has been established in order to control all nuclear material and implement nuclear safeguards. Its effectiveness and the strong commitment by Ukraine to safeguards implementation were reflected in the broad conclusion drawn for Ukraine by IAEA and reaffirmed in 2010.

Ukraine believes that the advancement of the nuclear disarmament verification to a great extent depends on the progress achieved in entering into force of the Comprehensive Nuclear-Test-Ban Treaty and conclusion of the treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices.

United Kingdom of Great Britain and Northern Ireland

[Original: English]
[27 July 2017]

The United Kingdom of Great Britain and Northern Ireland was pleased to co-sponsor General Assembly resolution 71/67 on nuclear disarmament verification and welcomes the opportunity to respond.

The United Kingdom recognizes the importance of developing and strengthening practical and effective nuclear disarmament verification measures. Achieving a world without nuclear weapons will not be possible without effective verification. States will require a high level of assurance of the compliance of others to reduce and eliminate nuclear weapons. Verification is the established way States can gain such assurance. To gain maximum confidence from verification it is important that States understand the measures being implemented. Involving both nuclear and non-nuclear-weapon States in developing verification measures will help to ensure that all States have confidence that obligations under future disarmament treaties are being met.

It will take time and effort to reach a world without nuclear weapons. Robust and effective technical verification measures will need to be ready to be applied when such time comes. In this way, negotiators of future disarmament treaties will have the required verification options available, to ensure such treaties create the confidence required to progress disarmament. To enable this to be possible in the future, verification measures should be developed now. While verification is not an aim in itself, work on developing and strengthening verification measures will be a necessary part of ensuring a world without nuclear weapons is achievable.

Furthermore, effective verification measures will be required to maintain a world without nuclear weapons. When such time comes, former possessor States will likely still have significant infrastructure and capabilities associated with their former programmes, and ensuring such facilities and capabilities are re-purposed or eliminated will take time. The assurance that verification can provide will be vital in establishing confidence that all States are maintaining their obligations under future disarmament agreements. Further thought will also be required to understand if current safeguards measures will be practicable or sufficient, when applied in the long term to all States, to provide the confidence required in maintaining a world without nuclear weapons. Without such verification States will not be able to be fully assured of their security and the pressure to proliferate and develop nuclear weapons again may be present.

Efforts taken at the national level to develop practical and effective nuclear disarmament verification measures

The United Kingdom has undertaken substantial work to date on developing practical and effective nuclear disarmament verification measures. It has developed a national programme on such verification measures at its Atomic Weapons Establishment following the Strategic Defence Review in 1998. Under the programme a series of exercises has been carried out, including in collaboration with partners in the United States of America and Norway, to establish how the dismantlement of nuclear warheads can be verified. This represents one of the most crucial and difficult aspects of nuclear disarmament verification: how to allow foreign inspectors, including those from non-nuclear weapon States, to undertake activities within nuclear weapons facilities, whilst maintaining safety, security and within the obligations of the Treaty on the Non-Proliferation of Nuclear Weapons.

The United Kingdom has identified the following key tasks which need to be achieved while protecting safety, security and proliferation sensitive information.

(a) How to ensure appropriate access to foreign inspectors and equipment into nuclear weapons facilities;

(b) How such inspectors can gain confidence an item presented is a nuclear weapon;

(c) How inspectors can maintain a chain of custody of a nuclear weapon through the dismantlement process.

The United Kingdom has investigated a range of technical solutions to these key challenges, including in collaboration with its partners. While significant progress has been made, many aspects still remain unresolved. Further additional challenges have yet to be addressed, including around the correctness and completeness of any declarations on nuclear weapons, and on verification measures which may be needed to maintain a world free of nuclear weapons.

By working with Norway, a non-nuclear-weapon State, the United Kingdom has been able to identify the skills and expertise required to enable successful work on verification. Most States possess individuals with the skills required to work on

verification, including those familiar with other verification regimes (i.e., International Atomic Energy Agency (IAEA), Organisation for the Prohibition of Chemical Weapons (OPCW), Conventional Armed Forces in Europe), internal regulation and compliance, nuclear safety and security, explosive safety, military site security, scientists and engineers and many other relevant skills. To develop chain of custody techniques and technologies which can be used in sensitive facilities under nuclear and explosive regulation is therefore possible in most States. The United Kingdom remains convinced of the important role of non-nuclear-weapon States in disarmament verification.

Most recently, the United Kingdom has been taking leading roles in both the International Partnership for Nuclear Disarmament Verification and the Quad Nuclear Verification Partnership between the United Kingdom, the United, Norway and Sweden. These two initiatives build on previous work and are developing multilateral approaches. These initiatives widen the field of expertise, allowing a much wider range of issues to be discussed and verification solutions to be found. However, further initiatives and the deeper involvement of more States will benefit the development of the full range of verification solutions needed.

Possible activities to be undertaken by the group of governmental experts

The United Kingdom welcomes the opportunity to discuss the importance of developing and strengthening practical and effective nuclear disarmament verification measures in achieving and maintaining a world without nuclear weapons.

The United Kingdom believes that among the activities and deliverables that the group of governmental experts can reasonably achieve in the timescale set for its deliberations, it should:

(a) Identify the verification challenges associated with achieving and with maintaining a world without nuclear weapons;

(b) Review the verification work undertaken to date;

(c) Identify key lessons learned and unresolved issues;

(d) Identify and report on how such issues could be addressed;

(e) Consider how to encourage more States to undertake efforts in developing and strengthening nuclear disarmament verification measures.

The previous work the group may wish to look at should include, but not be limited to, work undertaken between the United States and Russia for the treaties on strategic arms reduction; the trilateral initiative between Russia, the United States and IAEA; the United Kingdom-United States verification programme; the United Kingdom-Norway Initiative; the Quad Nuclear Verification Partnership and the International Partnership for Nuclear Disarmament Verification. Further, taking lessons from existing treaties and the institutions which implement their verification regimes will be essential. This should include IAEA and OPCW as the most relevant but could include many others. However, all verification regimes are different due to the unique challenges associated with each one. Other work has been published by non-governmental organizations and the United States national laboratories and this may provide valuable insights for the group.

In identifying key lessons learned and unresolved issues, the group should consider both the technologies and inspection techniques required to achieve verification, but also the methodologies used to investigate and develop them. This should include consideration of how to engage and build the confidence of States in verification, and how all States can utilize the resources they have to develop verification solutions for the future.

Identifying the future challenges for effective verification should be the key task of the group. Reporting back to the Secretary-General on what these issues are and the way in which they may be resolved in the future should be the group's aim. Given the breadth of work required, encouraging more States to become involved in developing nuclear disarmament verification measures will be important.

United States of America

[Original: English]
[27 July 2017]

A complex undertaking

The earliest bilateral United States of America-Soviet arms control treaties limiting the growth of nuclear arsenals did not provide for any on-site inspection, although there was a requirement not to interfere with monitoring by national technical means. But with the entry into force of the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range, the United States and the Soviet Union required unprecedented access to each other's most sensitive forces and facilities in order to verify compliance by each side.

Even today, under the New Strategic Arms Reduction Treaty, just 14 lines of text in the Treaty are devoted to the central limits. What provides the parties with confidence, predictability and stability are the processes and procedures that make up the more than 350 other pages of the Treaty. If the number of nuclear weapons decreases below the current global inventory, future arms control treaties and agreements will need to provide for new and even more intrusive inspection provisions, including access to new types of facilities and new items subject to inspection, such as the nuclear warheads themselves.

The key factor to enable the negotiation of further reductions in nuclear weapons is the global security situation. In the near term that security situation does not seem likely to enable such reductions. However, this does not mean that we should put thoughts of reductions and verification out of our mind. On the contrary now is the time, without the pressure of a negotiation, to contemplate what verification objectives and measures would be necessary to have confidence in the further reduction of global nuclear stockpiles. Now is the time to bring together experts from both nuclear possessor and non-possessor States, to build capacity and identify the challenges associated with verifying compliance with future commitments to nuclear weapon reductions. Now is the time to think through the complex solutions required to address those challenges, and begin the hard work of developing procedures and technologies that can implement those solutions.

Challenges of verification

Over the past decade, a number of important efforts have attempted to address the challenges of nuclear disarmament verification. The United States and the United Kingdom; the United Kingdom and Norway; and the International Partnership for Nuclear Disarmament Verification, among others, have all approached the issue of verification from different angles. These efforts have collectively identified some key truths:

- Nuclear disarmament verification is complex work often requiring the involvement of people who often times cannot be allowed to see nuclear weapons and components directly.

- Collaborative work between nuclear-weapon and non-nuclear-weapon States is important to developing verification capacity and buy-in of States to verification methods.
- Exercises and practical demonstrations of technology aid in the development of that buy-in and advance the state of play.
- It takes engagement by governments to address and solve the verification challenges.

The group of government experts established by General Assembly resolution 71/67 offers a forum for experts in the field of nuclear disarmament verification to incorporate these truths into a comprehensive framework that can guide future efforts like those cited above. It is easy for excitement to drive redundancy as competing groups of States, or even non-governmental organizations rush to establish additional groups to "solve" the problems of verification. Too many competing efforts stretch the pool of experts thin, and dilute the work and energy that can be focused on those efforts already under way.

In this context, it is important that the group of governmental experts on verification identify ongoing efforts in the field of nuclear disarmament verification research, and catalogue the issues on which these groups are focused. In addition, and more importantly, the group of governmental experts can identify the gaps in verification research that are not yet being addressed. Such a gap analysis can serve as a guidepost for efficiently addressing outstanding needs and identifying areas for future research efforts.

The importance of verification in future nuclear disarmament efforts is paramount. The collective capacity of nations to address verification issues is increasing and will continue to increase through cooperative efforts like the International Partnership. The group of governmental experts on verification can play an important role in harnessing this ever-increasing capacity to push the boundaries of the state-of-the-art in advance of a day when the security situation improves enough to enable commitments to further reductions in nuclear weapons.

III. Reply received from the European Union

[Original: English]
[17 July 2017]

The European Union and its member States remain committed to the pursuit of nuclear disarmament, in accordance with article VI of the Treaty and stress the need for concrete progress towards the full implementation of article VI of the Treaty on the Non-Proliferation of Nuclear Weapons, especially through an overall reduction in the global stockpile of nuclear weapons, taking into account the special responsibility of States that possess the largest nuclear arsenals.[2]

The European Union supports the strengthening of the effectiveness and efficiency of the International Atomic Energy Agency safeguards system that plays an indispensable role in the implementation of the non-proliferation obligations under the Treaty on the Non-Proliferation of Nuclear Weapons. Comprehensive safeguards agreements, together with the additional protocol, constitute the current

[2] European Union statement on Cluster I issues, 2017 Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, para. 5, available from http://statements.unmeetings.org/media2/14684386/eu-new-statement-cluster-i.pdf.

verification standard.[3] The close cooperation between the European Atomic Energy Community and the International Atomic Energy Agency (IAEA) allows for effective and efficient safeguards. The European Union actively supports the safeguards system of IAEA through the European Commission Safeguards Support Programme and the support programmes of some of its member States.

The entry into force and universalization of the Comprehensive Nuclear-Test-Ban Treaty and the verification capabilities of the International Monitoring System are of crucial importance and remain top priorities for the European Union. The European Union will continue providing both diplomatic and financial support for the Comprehensive Nuclear-Test-Ban Treaty and its Monitoring System in the future.

Through its continued financial support to the G7 Global Partnership against the Spread of Weapons and Materials of Mass Destruction and to the International Science and Technology Centre, the European Union has significantly contributed to international efforts to destroy and eliminate stockpiles of weapons of mass destruction and fissile material, and to redirect scientific and technical expertise for peaceful purposes.[4]

It is of utmost importance that all parties contribute to improving the strategic context for arms control and disarmament. The European Union continues to contribute actively to global efforts to seek a safer world for all and to create the conditions for a world without nuclear weapons, in accordance with the goals of the Non-Proliferation Treaty, in a way that promotes international stability, and based on the principle of undiminished security for all.[5]

The European Union supports the creation of broader partnerships and cooperative verification arrangements and, since its inauguration in 2015 participates, in the work of the International Partnership for Nuclear Disarmament Verification, to enable active collaboration between States with and without nuclear weapons, in conformity with their international obligations, in developing practical methods that could contribute to the verification of irreversible dismantlement of nuclear weapons.[6]

The European Union remains united and committed to treaty-based nuclear disarmament and arms control. The Conference on Disarmament has the crucial role to negotiate multilateral disarmament treaties according to its mandate. The European Union also recognizes the important role that the United Nations Disarmament Commission plays as a deliberative body of the General Assembly on disarmament matters.

The European Union and its member States supported the 2016 General Assembly resolution on nuclear disarmament verification and welcomed the establishment of the group of governmental experts to consider the role of verification in advancing nuclear disarmament. While verification is not an aim in itself, further development of the multilateral nuclear verification capabilities will be required for the achievement and maintenance of a world without nuclear weapons.[7]

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[3] European Union general statement, 2017 NPT Preparatory Committee, available from https://eeas.europa.eu/headquarters/headquarters-homepage/25740/preparatory-committee-2020-npt-review-conference-parties-treaty-non-proliferation-nuclear_en.

[4] European Union statement on Cluster I issues, 2017 Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, para 10, available from http://statements.unmeetings.org/media2/14684386/eu-new-statement-cluster-i.pdf.

[5] Ibid., para. 3.

[6] See General Assembly resolution 71/67, p. 14.

[7] European Union statement on Cluster I issues, 2017 Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, para 11, available from http://statements.unmeetings.org/media2/14684386/eu-new-statement-cluster-i.pdf.